

REMARKS

Reconsideration and allowance in view of the following remarks are respectfully requested.

Applicants wish to thank the Examiner for indicating that claim 15 is allowable and that claims 5, 8-11, 13-14, 20, 22 and 24 contain allowable subject matter and would be allowable if rewritten in independent form to include all of the features of the base claim and any intervening claims.

By this amendment, claims 1-6, 8-11 and 13-30 are pending, claims 7 and 12 are canceled without prejudice, claims 1, 4, 8-11, 13-16 and 19-20 are amended and claims 25-30 are newly added. Claim 4 is amended to conform to amended claim 1, claim 13 is amended to improve form and to depend from claim 1, claim 14 is amended to improve form and to conform to amended claim 1 and claims 8-11, 15-16 and 19 are amended to improve form.

In the outstanding non-final Office Action, the Examiner rejects claims 1-4, 6-7 and 12 under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,263,368 to Martin and claims 16-19, 21 and 23 under 35 U.S.C. §103(a) as allegedly being unpatentable over Martin in view of U.S. Patent No. 6,359,900 to Dinakar et al. (Dinakar).

102 Rejection of Claims 1-4, 6-7 and 12 (Martin)

Applicants submit that the amended claims obviate the rejection. Amended claim 1 recites a bandwidth divider for allocating bandwidth between a plurality of packet processors. The bandwidth divider comprises a controller for analyzing a level of bandwidth consumption of each of the packet processors based on a plurality of counters and allocating a data packet to one of the packet processors having a lowest level of bandwidth consumption.

Martin discloses providing server network load balancing based on network link loading (See Martin, column 3, lines 30-35). As admitted by the Examiner, on page 4 of the Office Action, Martin does not explicitly disclose allocating a data packet to the packet processor which has consumed the least amount of bandwidth. Therefore, Martin does not disclose a controller for analyzing a level of bandwidth consumption of each of the packet processors based on a plurality of counters and allocating a data packet to one of the packet processors having a lowest level of bandwidth consumption, as recited in claim 1.

Because Martin does not disclose each and every feature of claim 1, Applicants submit that claim 1 is not anticipated by Martin and respectfully request that the rejection be withdrawn.

Claims 2-4 and 6 depend from claim 1 and are not anticipated by Martin at least for the reasons discussed above regarding claim 1. Therefore, Applicants respectfully request that the rejection of claims 2-4 and 6 be withdrawn.

Claims 7 and 12 are canceled without prejudice rendering the rejection of claims 7 and 12 moot.

103 Rejection of Claims 16-19, 21 and 23 (Martin, Dinakar)

Applicants respectfully traverse the rejection of claims 16-19, 21 and 23. Claim 16 recites a method of directing data packets to a plurality of packet processors, comprising, among other things, allocating a next data packet to one of the packet processors which has consumed a least amount of bandwidth. On page 4 of the Office Action, the Examiner admits that Martin does not explicitly disclose allocating a next data packet to the packet processor which has consumed the least amount of bandwidth. The Examiner relies on Dinakar to disclose this feature.

Dinakar discloses a method and system for controlling access to a resource among several users of the resource. (See Dinakar, Abstract, lines 1-2). On page 4 of the Office Action, the Examiner states that Dinakar, at column 5, lines 38-41, discloses allocating a next data packet to the packet processor which has consumed the least amount of bandwidth. The cited portion of Dinakar states:

Preferably, request scheduler 22 first determines which of the slots is least-loaded, i.e. has been assigned the least amount of bandwidth, and begins assigning slots to the respective request beginning with the least-loaded slot.

The above-cited portion refers to Fig. 1 of Dinakar. In Fig. 1, requestors 15-20 seek access to a resource (Dinakar at column 5, lines 2-3). Each of the requestors 15-20 calls request scheduler 22 to request a desired amount of resource 28 (Dinakar at column 5, lines 3-7). The request scheduler 22 establishes a group of service queues for servicing resource requests (Dinakar at column 5, lines 10-12). Each service queue services requests for a particular amount of the resource 28 (Dinakar at column 5, lines 12-13). For example, one service queue may service requests seeking 0-6.66% of the bandwidth of the resource, another service queue may service requests seeking 6.67-20% of the bandwidth of the resource, a third service queue may service requests seeking 20.01-46.66% of the bandwidth of the resource and a fourth service queue may service requests seeking 46.67%-99% of the bandwidth of the resource (Dinakar at

column 5, lines 13-19). Request scheduler 22 establishes a group of time slots to use in conjunction with the service queues (Dinakar at column 5, lines 22-23). The slots generally establish a service order that offers each requestor access to the resource in proportion to an amount of resource requested (Dinakar at column 5, lines 23-26). Thus, the portion of Dinakar upon which the Examiner relies, column 5, lines 38-41, refers to assigning least-loaded slots to a respective request, where each of the slots is assigned to a service queue requesting a particular amount of a resource. Thus, for example, if the resource is a processor, then Dinakar discloses how to assign requests for use of a single processor based on an amount of the processor's bandwidth that is requested. In other words, Dinakar discloses the ordering and scheduling of the requests for use of the single processor. However, Dinakar fails to disclose or suggest allocating a next data packet to a packet processor which has consumed the least amount of bandwidth.

Further, Applicants submit that the combination of Martin and Dinakar would not provide the invention of claim 16. Applicants submit that the combination of Martin and Dinakar would provide a method of allocating or scheduling a group of data packets (requestors) to use a particular processor (resource) based on an amount of the processor (resource) requested. In the method of the Martin/Dinakar combination, data packets are first assigned to least-loaded slots of service queues for a single processor.

For at least the reasons discussed above, Applicants submit that neither Martin nor Dinakar disclose or suggest, either separately or in combination, allocating a next data packet to one of the packet processors which has consumed a least amount of bandwidth, as recited in claim 16. Therefore, Applicants respectfully request that the rejection of claim 16 be withdrawn.

Claims 17-19, 21 and 23 depend, either directly or indirectly, from claim 16. Applicants submit that these claims are patentable over Martin in view of Dinakar, for at least the reasons discussed above, and respectfully request that the rejection of claims 17-19, 21 and 23 be withdrawn.

Further, claim 23 recites normalizing the counters. Applicants submit that neither Martin nor Dinakar discloses or suggests this feature, either separately or in combination. The Examiner did not address this feature and, therefore, did not establish a prima facie case of obviousness with respect to claim 23.

Objection to Claims 5, 8, 9, 10, 11, 13, 14, 20, 22 and 24

Applicants submit, at least for the reasons discussed above, that claims 5, 8, 9, 10, 11, 13, 14, 20, 22 and 24 depend from allowable claims. Therefore, Applicants request that the objection to these claims be withdrawn.

New Claims 25-30

New claim 25 recites a method of allocating data packets to a plurality of packet processors, the method comprising, among other things, allocating a data packet to one of the packet processors that consumed the least amount of bandwidth. Applicants submit that this feature is similar to the previously discussed feature of claim 16 and that claim 25 is patentable over the cited prior art at least for the reasons discussed above regarding claim 16.

New claims 26-30 depend from claim 25 and are patentable at least for the reasons discussed above regarding claim 25.

CONCLUSION

All rejections and objections having been addressed, Applicants submit that the application is now in condition for allowance and a notice to that effect is earnestly solicited.

Applicants respectfully request that the Examiner contact Applicants' representative at the number indicated below if he wishes to discuss any aspect of this case.

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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